5090
Ser 1832.3/L5202
7 Aug 1995

From: Commanding Officer, Engineering Field Activity, West, Naval Facilities Engineering Command
To: Distribution

SUBJ: RESPONSE TO US EPA COMMENTS ON DRAFT PHASE 1B ECOLOGICAL RISK ASSESSMENT WORK PLAN, ENGINEERING FIELD ACTIVITY WEST, NAVAL FACILITIES ENGINEERING COMMAND, HUNTERS POINT ANNEX, SAN FRANCISCO, CA, 4 OCTOBER 1994

Encl: (1) Response to US Environmental Protection Agency Comments Regarding the Hunters Point Annex Phase 1B Ecological Risk Assessment Draft Work Plan dtd 4 Oct 1994.

1. Enclosure (1) is provided for your information. The response to agencies comments on the Draft Work Plan was incorporated into the Draft Final Work Plan. A separate, written response to US EPA's comments was requested by Sheryl Lauth of US Environmental Protection Agency.

2. If you have any questions, the point of contact is Mr. Dave Song at (415)244-2561.

Original signed by

RICHARD POWELL
By direction of
the Commanding Officer

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RAB Member: Business of Hunters Point Shipyard (Attn: Scott Madison)
RAB Member: Mayor's Hunters Point Shipyard Citizens Advisory Committee (Attn: Al Williams)
RAB Member: The New Bayview Committee (Attn: Samuel Murray)
RAB Member: SEED (Attn: Sy-Allen Browning)
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RESPONSE TO US ENVIRONMENTAL PROTECTION AGENCY COMMENTS REGARDING THE HUNTERS POINT ANNEX PHASE 1B ECOLOGICAL RISK ASSESSMENT PRELIMINARY DRAFT WORK PLAN DATED OCTOBER 4, 1994

General Comment:

1. Comment: **EPA participated in a conference call with representatives from the Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (RWQCB), The National Oceanic and Atmospheric Administration (NOAA) and the Department of Fish and Game to discuss the proposed Phase 1B ERA for Hunters Point Annex. The outcome of the conference calls was presented in Dr. Polisini's November 10, 1994 Memorandum. EPA's comments regarding: 1) Placement, length and sampling frequency of transects, 2) sediment core sampling procedure and placement, 3) aquatic toxicity tests and toxic endpoints, and 4) prediction of aquatic toxicity test results are reflected in Dr. Polisini's memorandum and will not be repeated herein.**

Response: The comments from Dr. Polisini's letter have been incorporated in the draft final work plan of June 7, 1995. See Sections 6.3 and 7.1 and Figures 6-1 to 6-4.

Specific Comments:

1. Comment: **Section 3.2.2 Sediment Hazard Quotients and Hazard Indexes. How will the data collected during the ESAP be incorporated into the selection of bioassay test locations? The Navy should ensure that bioassays are selected to incorporate areas of known contamination such as S-04 in Parcel B.**

Response: Sampling transects and locations have been chosen to provide additional data that will supplement the data generated during the ESAP. Sediments from Station 3 of Transect D, which crosses ESAP sampling location S-04 in Parcel B, will be tested using amphipod, echinoderm, and MICROTOX® bioassays.

2. Comment: **Section 4.2 Assessment and Measurement Endpoints. At the request of the Navy, a telephone conference call was held between EPA, Fish and Wildlife and PRC on October 17, 1994 to discuss and select appropriate "target receptors" for the terrestrial portion of the ERA. The following terrestrial receptors were agree upon: 1) Barn Owl, 2) American Kestrel, 3) Botta's Pocket Gopher, 4) Deer Mouse, Tree Frog, 5) invertebrates to include spiders, earthworms, grasshoppers and 6) bunch grass. These receptors were selected based on the following criteria: 1) Narrow home ranges, 2) Availability of specie toxicity data, 3) Trophic interaction and 4) Habitat suitability.**

It was also suggested during the conference call that a screening assessment be conducted to evaluate the effects of contamination from the HPA site on these target receptors. A qualitative intake assessment should be conducted using available soil and sediment data and tissue data to be collected as part of the benthic receptor assessment. The tissue data will serve as a bridge to evaluate impacts to secondary and tertiary receptors such as wading birds. Results of this qualitative assessment can be used to define areas of potential risk that may require further study. The objective is to determine if there is a problem prior to collecting prey species for tissue chemical analysis. Based on this qualitative assessment, the Navy and the regulatory agencies can determine if collection of tissue samples from primary or secondary terrestrial receptors is required.

Response: The Navy agreed to consider the proposed "target receptors" but did not agree to accept all "target receptors" as assessment endpoints. No tissue samples of terrestrial receptors have been proposed for this phase of the terrestrial assessment. The Navy will conduct a preliminary soil and sediment assessment to evaluate the effects of contamination. Based on this preliminary soil and sediment assessment, the need for further investigation of risk in the terrestrial system at HPA will be evaluated. (see Section 9).

Comment: **Although not included in this Workplan, it is important to note our understanding is that additional fish tissue data will be collected as part of the Human Health Risk Evaluation (HHRE) to determine potential impact to human receptors. If such sampling is not planned as part of the HHRE, it should be planned here.**

Response: Human health risk evaluation issues are not included in this study. The RWQCB has addressed contaminant levels in fish tissue from San Francisco Bay (RWQCB 1994). This study involved the collection of fish often caught and consumed by anglers in San Francisco Bay. Two of the sampling locations are near to HPA; Islais Creek to the north and Double Rock to the south. In addition, sampling for tissue residue analysis during phase 1B will include both invertebrates and fish, if locally occurring demersal fish can be obtained.

3. Comment: **Section 6.2 General Locations for Additional Offshore Sampling. <u>Storm Drains:</u> The Navy must provide rationale for the selection of the storm drain outfalls to be sampled. What constitutes "Major"? Is that based on flow or potential for releases? For example, the Navy needs to provide rationale for not sampling storm drains located off Berths 1 and 2 in Parcel C or the storm drains located off Berths 55-58 in Parcel B.**

Response: **Storm drains were chosen for sampling based on the aerial extent of the surface drained by that particular storm drain or because they drained IR sites. Because storm drains located off Berths 55 to 58 in Parcel B and off Berths 1 and 2 in Parcel C do not drain very large areas, the potential for large volumes of effluent or releases was deemed to be very small.**

Comment: **Off Shore of installation restoration Sites: The potential for releases from the Dry Docks should also be investigated. In addition, the source of the significant pesticide contamination detected in the area off Parcel B (ESAP sampling location S-04) should be further investigated.**

Response: Area S-04 is already included in this investigation. Transects D and E intersect the ESAP S-04 sampling location, and two stations are located within the S-04 sampling location. See Figure 6-1, draft final work plan.

4. Comment: **Section 6.3 Proposed Sampling Methods. As mentioned previously, the comments provided in Dr. Polisini's November 10, 1994 memorandum should be incorporated into the detailed discussion of methods, locations, transect lengths and sample sizes to be presented in the SAP.**

Response: These comments have been incorporated; see Section 6.3 and Figures 6-1 to 6-4 of the final draft work plan.

5. Comment: **Section 6.4 Proposed Sediment Parameters to be Tested. How will the HI approach discussed in Section 8.1.2 be used in conjunction with the bioavailability information to select bioassay sampling locations? Rather than using the bioavailability data alone, results of the chemical testing should also be used to determine where additional bioassays will be performed during the second phase of sampling.**

Response: Section 6.4 has been revised to address these concerns; also see Sections 6.2 and 8.1 of the final draft work plan.

Comment: **Section 8.1.2.3 referenced in the first paragraph does not exist, please clarify.**

Response: This section has been revised; see Section 8.1 of the draft final work plan.

Comment: **Grain Size: As discussed by MacDonald, "The [sediment grain size] data are less clear as to how important the accumulation potential is in determining toxicity. It is considered likely that at least part of the availability of many substances, particularly organic compounds, is basically the reverse of accumulation and hence the same concentrations are more available in coarse sediments than in fines. On the other hand, for those organisms that actually ingest the sediments, it is not clear whether sediment texture affects uptake" (MacDonald et. al. 1992). In addition, studies by Theodore DeWitt indicate that E. estuarius shows**

little sensitivity to sediments of difference grain sizes (DeWitt et. al. 1989).

Therefore, chemistry should be the primary indicator of potential effect with grain size being one factor to consider during the interpretation phase. While we agree that the finer particles having larger surface area per mass have the potential for accumulating more toxic substances than coarse particles, we are uncomfortable with the presumption that grain size can be used as a predictor of bioavailability without some field validation using bioassays.

Response: For an explanation of the use of grain size, see Sections 6.2.1 and 6.4.2 of the final draft work plan.

6. Comment: **Section 7.0 Evaluation of the groundwater-to-bay-pathway. Please clarify how the contribution of groundwater to offshore contamination will be investigated. The sampling objective of tracking contaminants from onshore sources to the offshore sediments should also apply to tracking of groundwater contaminants. This may be of particular interest in southeastern portion of Parcel B where the ESAP data indicated relatively high concentrations of contaminants in sediments.**

Response: This section has been revised: see Section 6.1 of the draft final work plan.

7. Comment: **Section 8.1.2 Ecological Effects Assessment. <u>Section 8.1.2.2 Step 1</u>. Please correct the equation reference numbers and provide additional discussion on the relative risk will be used to select bioassay test locations. As bioassays are a direct measure of a mixture of chemicals, how will additive effects be taken into account in the HI approach?**

We would like to stress that bioassays are the only proven method of predicting biological effects. We understand the Navy's desire to develop a cost effect approach to focus biological sampling at HPA, however the viability of using the HI approach as a predictor of toxicity must be tested prior to implementation on a site-wide basis. What constitutes high, med and low His? Are these based on a statistical distribution of the data? In addition, further discussion is required regarding the process for selecting additional bioassays if a correlation between bioassays and high, medium and low HIs does not exist.

Response: This section has been revised; see Section 8.1 and Figure 8-1 of the draft final work plan.

Comment: **<u>Section 8.1.2.1 Step 2</u>. Please provide clarification of how Steps 1 and 2 integrate (i.e. how are bioavailability data being used in conjunction with the HI calculated as part of Step 1 to select bioassay testing stations?).**

Response: This section has been revised; see Section 8.1 and Figure 8-1 of the draft final work plan.

Comment: **Using SEM/AVS as a screening tool to focus the assessment assumes that the system will remain in equilibrium. Disturbance events such as shipping activity, dredging etc.,seasonal changes and potential future sediment remediation will effect this relationship. If AVS to SEM ratios are the only method used to assess the probability of adverse effects from divalent metals on benthic receptors, the appropriateness of using this relationship should be confirmed with biological testing.**

Response: SEM/AVS will not be used as a screening tool. Instead, it will be used to understand the bioavailability of the metals. See Sections 6.2.1 and 6.4.2 of the draft final work plan.

8. Comment: **Section 8.2 Exposure and Effects Assessment of Avian Assessment Endpoints. According to the first paragraph on Page 37, Section 8.2.2 should describe the methodology for field measurements of prey tissue concentration. This section is not provided, please correct.**

Response: This section has been revised; see Section 7.2 of the draft final work plan.

Comment: **We agree that tissue sampling for shorebird and raptors is not feasible or desirable, therefore as discussed in Comment 3, EPA suggests conducting a qualitative intake assessment as an initial evaluation step to assess impact to higher trophic levels. Upon completion of this initial step, the Navy should present the results to the regulatory agencies to determine the scope of the next step, if required.**

Response: This section has been revised; see Section 8.2.1.2 of the draft final work plan.

9. Comment: **Section 8.2.1.1 Temporal and Spatial Characteristics. The Site Use Factor (SUF) should be determined in conjunction with the agencies.**

Response: The toxicity reference values (TRV) are being developed in conjunction with EPA, DTSC, and other interested agencies. The SUF will be considered during the development of the TRVs.

10. Comment: **Section 8.2.1.3 Food Chain Exposure Calculations. As mentioned above, the first step in determining the potential for uptake and bioaccumulation of site contaminants should be to conduct an intake assessment rather than collection of terrestrial measurement endpoints for tissue analysis.**

Response: This section has been revised; see Section 8.2.1.2 of the draft final work plan.

11. Comment: **Section 8.2.1.4 Proposed Measurement Endpoints. As identified in the text, there are two types of measurement endpoints proposed for characterization of risk to avian assessment endpoints: 1) field measurement of tissue concentrations for prey species and 2) direct toxicity and bioaccumulation testing of aquatic prey species.**

The first type of measurement endpoint will be used to determine the contaminant load ingested from contaminated aquatic and terrestrial prey and in the quantitative exposure model to determine a daily chemical dose for each avian assessment endpoint. During the October 17, 1994 conference call, it was recommended that soil and sediment data be used to conduct a qualitative intake assessment rather than collecting prey species for tissue residue analysis (other than species that will be collected to evaluate benthic assessment endpoints). This approach will allow for defining areas of potential risk that may require further study.

Response: A preliminary assessment of the soil and sediments will be conducted (see Section 9 and response to Comment No. 2). No tissue samples have been proposed for terrestrial assessment.

References

San Francisco Regional Water Quality Control Board (RWQCB). 1994. "Contaminant Levels in Fish Tissue from San Francisco Bay." Final Draft Report. December.